

2015 NH Patient Care Protocol Changes

Protocol	Section	Change
All that apply	AEMT	Moved Pediatric medications within the AEMTs formulary up from Paramedic to AEMT level.
Routine Patient Care	Medical Dispatch	<p>Added new section</p> <p>Medical Dispatch:</p> <p>In most cases Emergency Medical Care begins when 911 is called. Telecommunications Specialists that are certified in Emergency Medical Dispatch (EMD) with the New Hampshire Bureau of Emergency Communications serve as the “First, First Responders” and are an integral part of the EMS system. They are the first-activated professional link in the chain of survival for cardiac arrest care and provide vital interim care pending EMS arrival. New Hampshire currently uses the Medical Priority Dispatch System (MPDS). Some of the Telecommunication Specialists’ functions include:</p> <ul style="list-style-type: none"> • Timely notification to local dispatch centers. • Systematized caller interrogation and pre-arrival instructions using scripted protocols. • Triage emergency medical calls by level of medical acuity and provide dispatch centers with standardized dispatch determinants (i.e., Omega, Alpha, Bravo, Charlie, Delta, Echo). <p>With local medical director approval, each EMS agency may choose what resources and type of response (i.e., lights and siren versus flow of traffic) for each dispatch determinant.</p>
Routine Patient Care	Circulation Assessment	<p>New bullet:</p> <p>For adult patients with suspected dehydration without shock administer IV fluids as indicated in increments of 250 mL 0.9% NaCl.</p>
Routine Patient Care	Transport Decision	<p>New bullets:</p> <ul style="list-style-type: none"> • Refer to the <u>Trauma Triage and Transport Decision</u> and <u>Air Medical Transport</u> policies as necessary. • Non emergent medical transports from home or a medical facility with self or caretaker managed devices is an EMT-B level skill. Caretaker must travel with the patient if it is not a self managed device.
Exception Protocol		No changes
Extended Care Guidelines		No changes
Abdominal Pain		New Protocol
Adrenal Insufficiency		No changes
Allergic Reaction/Anaphylaxis – Adult	Paramedic – 2 nd bullet	Increased Methylprednisolone from 62.5 to 125 mg.
Allergic	Paramedic – 3 rd	Removed the word “severe”

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Reaction/Anaphylaxis – Adult	bullet	
Allergic Reaction/Anaphylaxis – Adult	Paramedic – 4 th bullet	<p>Removed Epinephrine IV push and replaced with:</p> <ul style="list-style-type: none"> For anaphylaxis refractory, after 3 or more doses of IM epinephrine, (e.g., persistent hemodynamic compromise, bronchospasm), consider: <ul style="list-style-type: none"> Epinephrine infusion 2-10 micrograms/minute until symptoms resolve (Place 1mg epinephrine in 1000 mL 0.9% NaCl for 1 microgram/mL).
Allergic Reaction/Anaphylaxis – Adult	Extended Care – Paramedic – New pharm	<p>New bullet:</p> <ul style="list-style-type: none"> Prednisone 60mg by mouth.
Allergic Reaction/Anaphylaxis – Pediatric	AEMT	<p>Moved Epinephrine IM administration and nebulizers up from Paramedic</p> <ul style="list-style-type: none"> For anaphylaxis: epinephrine autoinjector, (preferred) OR Epinephrine (1:1,000) 0.01mg/kg (0.01ml/kg) IM, lateral thigh preferred. (Maximum single dose 0.3mg.). Repeat epinephrine 0.01mg/kg IM every 5 minutes until signs and symptoms resolve. Consider administration of albuterol 2.5mg via nebulizer. Repeat albuterol 2.5mg, every 5 minutes (4 doses total) via nebulizer.
Allergic Reaction/Anaphylaxis – Pediatric	Paramedic – 4 th bullet	<p>Removed Epinephrine IV push and replace with:</p> <ul style="list-style-type: none"> For anaphylaxis refractory, after 3 or more doses of IM epinephrine, (e.g., persistent hemodynamic compromise, bronchospasm) consider: <ul style="list-style-type: none"> Epinephrine Infusion 0.1 - 2 micrograms/kg/minute (maximum 10 micrograms/min) via pump until symptoms resolve. (Place 1mg epinephrine in 1000 mL 0.9% NaCl for 1 microgram/mL).
ALTE Apparent Life-Threatening Events	History	Added, “any prior similar events”
ALTE Apparent Life-Threatening Events	PEARLS	<p>Added “color change to cyanotic”</p> <p>New PEARL: “Non-accidental trauma should always be considered in an infant who presents with ALTE.</p>
Asthma, COPD, RAD – Adult	EMT –	Additional doses of MDI after first 4 doses with medical control
Asthma, COPD, RAD – Adult	AEMT	<p>Before 3 DuoNeb followed by either albuterol or DuoNeb 4 times.</p> <p>Now 3 DuoNeb followed by albuterol as needed</p>
Asthma, COPD, RAD – Adult	Paramedic	<p>New medication</p> <ul style="list-style-type: none"> Dexamethason 10mg IV

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		Medication dose change: <ul style="list-style-type: none"> Methylprednisolone dose increased to 125mg IV
Asthma, Bronchiolitis, Croup - Pediatric	Title	Added Bronchiolitis and removed RAD
Asthma, Bronchiolitis, Croup - Pediatric	EMT	Removed the last bullet and added a new bullet <ul style="list-style-type: none"> For suspected croup, provide humidified oxygen. For patients ≤ 2 who present with increased work of breathing and rhinorrhea provide nasal suctioning with saline drops and bulb syringe.
Asthma, Bronchiolitis, Croup – Pediatric	AEMT – Asthma (Wheezing ≥ 2 years or history of asthma)	<ul style="list-style-type: none"> Moved DuoNeb treatment for asthma up from the Paramedic level to the AEMT level as follows: Consider Unit dose DuoNeb OR albuterol 2.5mg and ipratropium bromide 0.5mg via nebulizer <ul style="list-style-type: none"> Consider additional DuoNeb, may repeat every 5 minutes (3 doses) Consider albuterol 2.5 mg via nebulizer every 5 minutes, as needed. Consider CPAP
Asthma, Bronchiolitis, Croup – Pediatric	Paramedic – Asthma (Wheezing ≥ 2 years or history of asthma)	Consider: <ul style="list-style-type: none"> Dexamethasone 0.6mg/kg PO/IM/IV (PO preferred)OR Methylprednisolone 2 mg/kg IV/IM up to 125 mg. For patients who do not respond to treatment or for impending respiratory failure consider: <ul style="list-style-type: none"> Magnesium 40 mg/kg IV Epinephrine 0.1 mg/kg (1:1,000) IM/SQ.
Asthma, Bronchiolitis, Croup – Pediatric	Paramedic – Croup (History of stridor or barking cough)	Consider: <ul style="list-style-type: none"> Dexamethasone 0.6mg/kg PO/IM/IV (PO preferred)OR Croup with stridor at rest: <ul style="list-style-type: none"> Epinephrine 3 mL (1:1,000) nebulized.
Asthma, Bronchiolitis, Croup – Pediatric	Paramedic - Bronchiolitis (wheezing < 2 years)	For patients who do not respond to suctioning or for impending respiratory failure consider: <ul style="list-style-type: none"> Epinephrine 3 mL (1:1,000) nebulized.
Asthma, Bronchiolitis, Croup – Pediatric	Red Flag	Child with a “silent chest” may have severe bronchospasm with impending respiratory failure.
Asthma, Bronchiolitis, Croup – Pediatric	PEARLS	PEARLS: Croup

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		<ul style="list-style-type: none"> Incidence peaks in children over age 6 months. Signs and symptoms include: hoarseness, barking cough, inspiratory stridor, signs of respiratory distress. In severe croup with stridor at rest, agitation may cause complete airway obstruction. Avoid procedures that will distress child. <p>Bronchiolitis</p> <ul style="list-style-type: none"> Incidence peaks in 2-6 month old infants. Frequent history of low-grade fever, runny nose, and sneezing. Signs and symptoms include: tachypnea, rhinorrhea, wheezes and / or crackles.
Behavioral Emergencies	PEARLS	<p>Updated PEARLS:</p> <ul style="list-style-type: none"> Excited/Agitated Delirium is characterized by extreme restlessness, irritability, and/or high fever. Patients exhibiting these signs are at high risk for sudden death. Medications should be administered cautiously in frail or debilitated patients; lower doses should be considered. Administer haloperidol with caution to patients who are already on psychotropic medications which may precipitate serotonin syndrome or malignant hyperthermia. Placing a patient in prone position creates a severe risk of airway and ventilation compromise and death.
Childbirth		New Protocol
Diabetic Emergencies		Replaced protocol with Hyperglycemia and Hypoglycemia protocols
Fever – Adult & Pediatric	Red Flag	<p>Added the word “ibuprofen “:</p> <ul style="list-style-type: none"> Use ibuprofen with caution in patient with dehydration, CV disease or pre-existing renal failure.”
Fever – Adult & Pediatric	History box – last bullet	Reworded from, “for patient where transport is refused”, to “ for patients who refuse transport. ”
Fever – Adult & Pediatric	PEARLS	<p>New PEARL:</p> <ul style="list-style-type: none"> Infrared thermometers are better than tympanic.
Fever – Pediatric	EAP – 2 nd bullet	<p>Added age preference:</p> <ul style="list-style-type: none"> Obtain temperature - rectal temperature preferred if < 3 months.
Hyperglycemia - Adult		Broken out of the old Diabetic Protocol.
Hyperglycemia - Pediatric	EMT	<p>Broken out of the old Diabetic Protocol.</p> <p>Moved PO fluids to Extended Care.</p>
Hyperglycemia – Adult & Pediatric	PEARLS	<p>New PEARLS:</p> <ul style="list-style-type: none"> Diabetic Ketoacidosis is a life threatening emergency defined as uncontrolled hyperglycemia and the

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		<p>signs and symptoms of ketoacidosis.</p> <ul style="list-style-type: none"> Signs and symptoms of Diabetic Ketoacidosis include uncontrolled blood glucose greater than 250 mg/dL, weakness, altered mental status, abdominal pain, nausea, and vomiting, polyuria (excessive urination), polydipsia (excessive thirst), a fruity odor on the breath (from ketones), and tachypnea. Common causes of Diabetic Ketoacidosis include infection, acute coronary syndrome, and medication non-compliance. Hyperglycemic Hyperosmolar Nonketotic Syndrome (HHNS) is characterized by blood glucose levels greater than 600 mg/dL and profound dehydration without significant ketoacidosis. Most patients present with severe dehydration and focal or global neurologic deficits eg coma, altered mental status. Hyperglycemia may be detrimental to patients at risk for cerebral ischemia such as victims of stroke, cardiac arrest, and head trauma.
Hyperthermia – Adult & Pediatric	EMT	<p>Updated bullet for temperature preference:</p> <ul style="list-style-type: none"> Obtain temperature – rectal temperature preferred as appropriate. <p>Added to the cooling bullet:</p> <ul style="list-style-type: none"> Truncal ice packs and wet towels/sheets may be used, but are less effective than evaporation. <p>Added a temperature for when to stop cooling:</p> <ul style="list-style-type: none"> Discontinue active cooling when the patient reaches 38.5°C (101.5°F), or if shivering occurs or cannot be managed by paramedics (see below).
Hyperthermia - Pediatric	AEMT	<p>Added fluid bolus for dehydration:</p> <ul style="list-style-type: none"> Pediatric: Consider 10 – 20ml/kg 0.9% NaCl IV fluid bolus for dehydration even if vital signs are normal.
Hypoglycemia – Adult & Pediatric	EMT –	<p>Similar to the old Diabetic protocol with the following changes:</p> <p>New bullets on insulin pumps:</p> <ul style="list-style-type: none"> For patients with an insulin pump who are hypoglycemic with associated altered mental status (GCS<15): <ul style="list-style-type: none"> Stop the pump or disconnect catheter at insertion site if patient cannot ingest oral glucose or ALS is not available. Leave the pump connected and running if able to ingest oral glucose or receive ALS interventions.
Hypoglycemia – Adult & Pediatric	AEMT	<p>Changed the dextrose concentration to D10 not D50, and administer until mental status returns to baseline. (IV pumps not required).</p> <p>Added glucapen to glucagon bullet.</p>

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Hypoglycemia – Pediatric	AEMT	<p>Moved dextrose administration up from Paramedic level to AEMT</p> <ul style="list-style-type: none"> Administer dextrose 10% IV via premixed infusion bag (preferred) or prefilled syringe until mental status returns to baseline and glucose level is greater than 70mg/dL or per Pediatric Color Coded Appendix 2. IV pump not required.
Hypoglycemic – Adult & Pediatric	PEARLS	<ul style="list-style-type: none"> Adult: Glucose <70mg/dl with associated altered mental status, GCS <15. There are no statistically significant differences in the median recovery time to a GCS score of 15 following administration of D10% versus D50%. D10% could benefit patients in controlling their post-treatment high blood sugar levels. Causes of hypoglycemia include medication misuse or overdose, missed meal, infection, cardiovascular insults (e.g., myocardial infarction, arrhythmia), or changes in activity (e.g., exercise) Sulfonylureas (e.g., glyburide, glipizide) have long half-lives ranging from 12-60 hours. Patients with corrected hypoglycemia who are taking these agents are at particular risk for recurrent symptoms and frequently require hospital admission. Oral glucose equivalents include 3-4 glucose tablets, 4 oz. fruit juice (e.g. orange juice), non-diet soda, 1 tablespoon of pure NH maple syrup, sugar, or honey. Encourage patients who refuse transport after improvement in GCS to consume complex carbohydrates (15 grams) and protein (12 – 15 grams) such as peanut butter toast, mixed nuts, milk or cheese to stabilize blood sugar. Hypoglycemia may be detrimental to patients at risk for cerebral ischemia, such as victims of stroke, cardiac arrest, and head trauma.
Hypothermia – Adult & Pediatric	EMT	<p>In addition to removing wet clothing add to the bullet and dry patient.</p> <p>Added a bullet to obtain blood glucose.</p> <p>Updated bullet for CPR:</p> <p>If pulse and breathing are absent, start CPR see Cardiac Arrest Adult or Cardiac Arrest Pediatric.</p> <p>If core temperature is <30°C (86°F):</p> <p>Continue CPR</p> <p>Apply AED and defibrillate.</p> <p>If core temperature is > 30°C (86°F): see Cardiac Arrest Protocols</p>
Hypothermia	AEMT/Paramedic	<p>Specified warm fluids:</p> <ul style="list-style-type: none"> Warm IV 0.9% NaCl 38°C - 42°C (101.4°F – 107.6°F) should be used. Updated correct temperature for start

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		<p>Further updated ALS CPR:</p> <ul style="list-style-type: none">• If pulse and breathing are absent and esophageal or rectal temperature is <35°C (95°F) <32°C (89.6°F):<ul style="list-style-type: none">▪ Continue CPR.▪ Give IV medications based on dysrhythmia (consider increasing the dosing time to allow drugs to circulate). Attempt defibrillation once. (ADULT: Use 360 joules for monophasic and 120 – 200 joules for biphasic defibrillators. PEDIATRIC: 2 joules/kg)○ If core temperature is >30°C (86°F):<ul style="list-style-type: none">▪ Continue CPR.▪ Give IV medications based on dysrhythmia (but at longer intervals).▪ Defibrillation as indicated.								
Hypothermia	New Hypothermia Table	<table><tr><td>STAGE: I Core Temp Treatment:</td><td>Conscious, shivering 35 to 32°C Warm environment and clothing, warm sweet drinks, and active movement (if possible)</td></tr><tr><td>STAGE: II Core Temp Treatment:</td><td>Impaired consciousness, not shivering <32 to 28°C Cardiac monitoring, minimal and cautious movements to avoid arrhythmias, horizontal position and immobilization, full-body insulation, active external and minimally invasive rewarming techniques (warm environment; chemical, electrical, or forced- air heating packs or blankets; warm parenteral fluids)</td></tr><tr><td>STAGE: III Core Temp Treatment:</td><td>Unconscious, not shivering, vital signs present <28 to 24°C HT II management plus airway management as required; ECMO or CPB in cases with cardiac instability that is refractory to medical management</td></tr><tr><td>STAGE: IV Core Temp Treatment:</td><td>No vital signs <24°C HT II and III management plus CPR and up to three doses of epinephrine (at an intravenous or intraosseous dose of 1 mg) and defibrillation, with further dosing guided by clinical response; rewarming with ECMO or CPB (if available) or CPR with active external and alternative internal rewarming</td></tr></table>	STAGE: I Core Temp Treatment:	Conscious, shivering 35 to 32°C Warm environment and clothing, warm sweet drinks, and active movement (if possible)	STAGE: II Core Temp Treatment:	Impaired consciousness, not shivering <32 to 28°C Cardiac monitoring, minimal and cautious movements to avoid arrhythmias, horizontal position and immobilization, full-body insulation, active external and minimally invasive rewarming techniques (warm environment; chemical, electrical, or forced- air heating packs or blankets; warm parenteral fluids)	STAGE: III Core Temp Treatment:	Unconscious, not shivering, vital signs present <28 to 24°C HT II management plus airway management as required; ECMO or CPB in cases with cardiac instability that is refractory to medical management	STAGE: IV Core Temp Treatment:	No vital signs <24°C HT II and III management plus CPR and up to three doses of epinephrine (at an intravenous or intraosseous dose of 1 mg) and defibrillation, with further dosing guided by clinical response; rewarming with ECMO or CPB (if available) or CPR with active external and alternative internal rewarming
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Hypothermia	PEARLS	<p>New PEARLS:</p> <ul style="list-style-type: none">• Patients with severe frost bite injury may benefit from urgent treatment with IV TPA at a burn center.• Most digital thermometers will not read below 35°C (95°F).• Hypothermic patients are often significantly dehydrated, and may require repeat fluid boluses.• Transportation with continuing CPR may be justified if hypothermia is present or suspected.• Patients with Stage III or IV hypothermia may benefit from treatment at a facility capable of ExtraCorporeal Membrane Oxygenation (ECMO) or CardioPulmonary Bypass (CPB). Provide a list of these facilities								
Nausea & Vomiting	AEMT	<p>Added new medication (Moved up from Paramedic)</p> <ul style="list-style-type: none">• Ondansetron 4mg by mouth (PO)								
Nerve Agent/Organophosphate		No changes								

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Poisoning		
Newborn Care	All levels	Under assessing circulation, heart rate and skin color added: <ul style="list-style-type: none"> Assess temperature
Newborn Resuscitation	EMT/AEMT	Under warming: <ul style="list-style-type: none"> For premature infants, consider additional warming techniques, including wrapping the baby in food- or medical-grade plastic wrap, silver swaddler/space blanket (preferred).
OB/GYN	All levels	Added GYN emergencies and broke out
OB/GYN	All levels	<p>New GYN section:</p> <ul style="list-style-type: none"> Routine Patient Care. Obtain history. <ul style="list-style-type: none"> Abdominal pain with associated symptoms (syncope, lightheadedness, nausea, vomiting, fever). Vaginal bleeding (onset, duration, quantity, syncope, lightheadedness). Treat for shock, see <u>Non-Traumatic Shock Protocol X.XX</u>. <p>For obstetrical patients:</p> <p>1st or 2nd trimester or unknown pregnancy status: place patient in position of comfort.</p> <ul style="list-style-type: none"> 3rd trimester pregnancy (>28 weeks, if gestational age is known); place patient left lateral recumbent. Visually inspect for crowning/presenting parts, see <u>Childbirth X.XX</u>. Do not put fingers or hand inside vagina during assessment. If gestational age known to be < 20 weeks, transport to closest hospital. For imminent delivery (patient has strong urge to push) or medically unstable mother, transport to closest hospital. If gestational age is > 20 weeks, contact Medical Control and follow local OB Diversion Protocol. Consider ALS intercept.
OB/GYN	All levels	Broke out Pre-eclampsia/Eclampsia care
OB/GYN	PEARLS	<p>PEARL on hemorrhaging:</p> <ul style="list-style-type: none"> Amount of bleeding is difficult to estimate. Menstrual pad holds between 5-15 mL depending on type of pad. Maternity pad holds 100 mL when completely saturated. Chux pad holds 500 mL. Estimate the amount of bleeding by number of saturated pads in last 6 hours. <p>PEARL on Signs & Symptoms of Pre-eclampsia</p>
Pain – Adult	EMT	Added: If there is a language barrier, use self report scale, see <u>Pain – Pediatric Protocol 2.X</u>
Pain – Adult	Paramedic	<p>New medication:</p> <p>Hydromorphone 0.5 - 1mg IV, every 10 minutes to a total of 4 mg titrated to pain relief.</p>
Pain – Adult	Red Flag	Added:

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		<ul style="list-style-type: none"> Medications should be administered cautiously in frail, debilitated, or patients over 65 years of age; lower doses should be considered. Use caution for altered mental status, hypoventilation, hypotension, or allergy.
Pain – Pediatric	EMT	<p>Sucrose for infants age range changed: Full term infants up to 12 months 60 days of age:</p>
Pain - Pediatric	Paramedic	<p>Medication dose changes:</p> <ul style="list-style-type: none"> Fentanyl 0.5 1.0 micrograms/kg IV/IM/IN may repeat 0.5 micrograms/kg every 5 minutes. May be repeated to a total of 3 doses, OR Morphine 0.1mg/kg IV every 10 minutes may repeat 0.05mg/kg every 5 minutes to a total of 3 doses. <p>Antidote: For hypoventilation from opiate administration by EMS personnel</p>
Pain – Pediatric	Red Flag	<p>New bullet:</p> <ul style="list-style-type: none"> Narcotics should be administered with caution for patients with altered mental status, hypoventilation, hypotension and / or history of allergies to similar class of medications
Poisoning/Substance Abuse/Overdose – Adult	EMR/EMT	Intranasal Narcan mid-cycle change.
Poisoning/Substance Abuse/Overdose – Adult & Pediatric	EMR/EMT	<p>Added a new bullet:</p> <ul style="list-style-type: none"> Prior to calling Poison Control attempt to identify substance, quantity, time/route of exposure and patient information (weight, medications, history, intentional, accidental)
Poisoning/Substance Abuse/Overdose - Pediatric	AEMT	For suspected opiate overdose with severe respiratory depression consider: Naloxone refer to <u>Pediatric Color Coded Appendix</u> 0.1mg/kg to 2 mg (maximum initial dose 0.4mg) IV/IM/SQ/IN or ETT , repeat every 5 minutes as needed.
Poisoning/Substance Abuse/Overdose – Adult & Pediatric	Paramedic	<ul style="list-style-type: none"> Tricyclic with symptomatic dysrhythmias, (e.g., tachycardia and wide QRS > 100 milliseconds)
Poisoning/Substance Abuse/Overdose –Adult & Pediatric	Signs & Symptoms	<ul style="list-style-type: none"> Anticholinergic: tachycardia, fever, dilated pupils, mental status changes. Blind as a bat (blurred vision). Dry as a bone (dry mouth). Red as a beet (flushing). Mad as a hatter (confusion). Hot as a hare (hyperthermia). Opiate: Respiratory depression or arrest, pinpoint pupils, decreased mental states. Prolonged overdoses may result in compartment syndrome and/or hypothermia. Solvents: nausea, coughing, vomiting, mental status change and arrhythmias. Patient with significant solvent exposure, must be handled gently to reduce the incident of arrhythmia and/or subsequent cardiac arrest.
Seizures – Adult	Paramedic	Increased benzodiazepine doses:

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		<p>If generalized While seizure activity is present, consider:</p> <ul style="list-style-type: none"> Midazolam 2.5 – 6mg IV/IN repeated every 5 minutes or; 5mg IM every 10 minutes, 10 mg IM (preferred route) every 10 minutes or 5 – 10 mg IV/IN every 5 minutes, OR Lorazepam 1 – 2mg IV, every 5 minutes or; 2 – 4mg IM, every 10 minutes 2 – 4 mg IV every 5 minutes to a total of 8mg, OR Diazepam 5 – 10mg IV (then 2.5mg every 5 minutes to total of 20mg) <p>For patients in the third trimester of pregnancy or post-partum who are seizing or who are post-ictal:</p> <ul style="list-style-type: none"> Magnesium sulfate, 4 grams IV (mix in 100 mL 0.9% NaCl) bolus over 10 minutes, then consider 1 gram/hr continuous infusion.
Seizures – Adult & Pediatric	PEARLS	<p>Updated a PEARL and added a new one</p> <ul style="list-style-type: none"> IN/IM is the preferred route for Midazolam where an IV has not been previously established. Midazolam is well absorbed when administered IM. There is an increased risk of apnea with >2 doses of benzodiazepines.
Seizure – Pediatric	Paramedic	<p>Updated the medication dosing:</p> <p>If generalized While seizure activity is present, consider:</p> <ul style="list-style-type: none"> Midazolam 5mg/mL concentration (IN or IM preferred): <ul style="list-style-type: none"> 0.1mg/kg IV/IM 0.2mg/kg IN/IM (single maximum dose 6-8mg) repeat every 5 minutes; or 0.1mg/kg IV (single maximum dose 4 mg) repeat every 5 minutes, OR Lorazepam 0.1mg/kg IV /IM (single maximum dose 4mg) repeat every 5 minutes, OR Diazepam 0.21mg/kg IV or 0.5mg/kg PR (single maximum dose 10mg IV or 20mg PR) repeat every 5 minutes. <p>Any of the above may be repeated once after 5 minutes.</p>
Seizure - Pediatric	Red Flag	<p>New Red Flag:</p> <ul style="list-style-type: none"> Do NOT routinely place an IV/IO for the actively seizing patient (unless needed for other reasons).
Septic Shock – Adult	Assessment	<p>Added to B/P bullet:</p> <ul style="list-style-type: none"> Systolic blood pressure < 90 mmHg OR Mean Arterial Pressure (MAP) <65mmHg.
Septic Shock – Adult	EMT	<p>Updated notification bullet:</p> <ul style="list-style-type: none"> If positive sepsis screen, notify receiving facility of a “Sepsis Alert”. <p>Notify ED of possible septic shock patient per local guidelines.</p>
Septic Shock – Adult	AEMT	<p>Updated fluid bolus bullet:</p> <ul style="list-style-type: none"> Rapidly administer 0.9% NaCl to maintain systolic blood pressure >90mmHg OR MAP >65mmHg in 500ml boluses every 20 minutes. Total volume should not exceed 4,000ml.
Septic Shock – Adult	Paramedic	Updated pressors as follows:

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		<ul style="list-style-type: none"> Norepinephrine (preferred) (4mg in 1000 mL 0.9% normal saline for 4 microgram/mL) 1 - 30 micrograms/minute via pump. Epinephrine (1:10,000) infusion (1mg in 1000 mL 0.9% normal saline for 1 microgram/mL) 2 -10 micrograms/minute via pump Dopamine infusion 5 – 20 micrograms/kg/minute via pump. Phenylephrine HCl infusion 100 – 180 micrograms loading dose followed by infusion of 40 – 60 micrograms/minute via pump.
Septic Shock – Pediatric	All levels	New Protocol
Septic Shock – Pediatric	AEMT	Updated fluid bolus: <ul style="list-style-type: none"> Administer fluid bolus of 20mL/kg of 0.9% rapid IV bolus via syringe method or pressure infusion with goal of less than 15 minutes (may repeat to a maximum 60 mL/kg) to improve clinical condition (capillary refill time ≤ 2 seconds, equal peripheral and distal pulses, improved mental status, normal breathing.)
Non-Traumatic Shock	All Levels	Reformatted to separate out Non-Traumatic Shock and Traumatic Shock
Non-Traumatic Shock	All Levels – Hypovolemic Shock	Added new links to: <ul style="list-style-type: none"> OB/GYN Protocol Syncope Protocol
Non-Traumatic Shock - Pediatric	AEMT/Paramedic	Increased maximum fluid volume: <ul style="list-style-type: none"> Administer fluid bolus of *20mL/kg of 0.9% rapid IV bolus via syringe method or pressure infusion with goal of less than 15 minutes (may repeat to a maximum 60 mL/kg) to improve clinical condition (capillary refill time ≤ 2 seconds, equal peripheral and distal pulses, improved mental status, normal breathing.)
Non-Traumatic Shock – Adult & Pediatric	Paramedic	Added a bullet to check lactose if trained. New section for Pediatric Cardiogenic Shock: <ul style="list-style-type: none"> For pediatric cardiogenic shock administer fluid bolus of 10mL/kg of 0.9% saline by syringe push method. Repeat bolus per Medical Control. For pediatric cardiogenic shock consider Dopamine infusion 5 – 20 microgram/kg/minute.
Smoke Inhalation – Adult & Pediatric	AEMT/Paramedic	Removed the 100 mL option; it is no longer available in that volume: <ul style="list-style-type: none"> Reconstitute: Place the vial of hydroxocobalamin in an upright position; add 0.9% NaCl to the vial (200 mL for 5 grams vial or 100 mL for 2.5 grams vial) using the transfer spike.
Stroke – Adult	All levels	New bullets:

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		<ul style="list-style-type: none"> • If any 1 of the signs of the stroke scale is abnormal notify the emergency department of a “Stroke Alert” as soon as possible, per local stroke plan, and ensure to provide the last time seen well and onset of symptoms. • On scene goal should be ≤ 15 minutes. • Consider air medical transport per local stroke plan. <p>Reworded the last box in the stroke scale to better explain to providers that if any one of the signs are present the patient has an abnormal stroke scale.</p> <div style="background-color: #6b8e23; color: white; padding: 5px;"> <p>If 1 or more of the above 3 signs are abnormal, then your patient has an abnormal stroke scale finding. An abnormal stroke scale finding has a high probability of having a stroke.</p> </div>
Syncope – Adult & Pediatric	All levels	New Protocol
Acute Coronary Syndrome - Adult	Paramedic	<p>Increase range of fentanyl:</p> <p>Consider fentanyl 25 – 50 100 micrograms slow IV push every five minutes up to 300 micrograms and systolic BP remains >100 mmHg OR</p>
Bradycardia - Adult	Paramedic	<p>Added norepinephrine infusion and re-ordered preference of use.</p> <ul style="list-style-type: none"> • Epinephrine (1:10,000) infusion (1mg in 1000 mL 0.9% normal saline for 1 microgram/mL) 2 -10 micrograms/minute via pump OR • Norepinephrine (4mg in 1000 mL 0.9% normal saline for 4 microgram/mL) 1 - 30 micrograms/minute via pump. OR • Consider dopamine infusion 2 – 10 micrograms/kg/minute, OR • Consider epinephrine infusion at 2 – 10 micrograms/minute. • Contact Medical Control for expert consultation.
Bradycardia – Adult	Paramedic	<p>Added calcium gluconate</p> <ul style="list-style-type: none"> • For symptomatic calcium channel blocker overdose consider: <ul style="list-style-type: none"> ○ Calcium gluconate 2 grams IV over 5 minutes, OR ○ Calcium chloride (10% solution) 1 – 2 grams IV over 10 5 minutes. • For suspected hyperkalemia with ECG changes in patients with renal failure consider: <ul style="list-style-type: none"> ○ Calcium gluconate 2 grams IV over 5 minutes OR ○ Calcium chloride (10% solution) 1 gram IV over 5 minutes.
Bradycardia – Pediatric	Paramedic	<p>Added calcium gluconate</p> <ul style="list-style-type: none"> • Calcium gluconate (10% solution) 100mg/kg with a maximum 3000mg/dose; may repeat in 10

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		minutes
Cardiac Arrest – Adult & Pediatric	Paramedic	Updated language in 2 nd & 3 rd bullet: <ul style="list-style-type: none"> If ventilation is adequate with BVM, routine placement of advanced airway can be deferred delayed. Placement of an advanced airway during cardiac arrest should not interrupt chest compressions. In this setting, supraglottic airways and ETTs can be considered equivalent. ETT placement, if used, should be limited to 1 attempt of 10 seconds or less.
Congestive Heart Failure	AEMT	Moved sublingual nitroglycerin administration to the AEMT level: <ul style="list-style-type: none"> For patients with known history of congestive heart failure, consider nitroglycerin 0.4mg SL every 5 minutes while symptoms persist and if the systolic BP is >140 mmHg
Congestive Heart Failure	PEARLS	Removed furosemide PEARL
Induced Therapeutic Hypothermia		Removed from protocol and incorporated ice packs and sedation under Post Resuscitative Care.
Post Resuscitative Care	EMT	New bullet: <ul style="list-style-type: none"> If the patient is unresponsive, consider transport to a facility capable of inducing therapeutic hypothermia.
Post Resuscitative Care	Paramedic	With return of spontaneous circulation after non-traumatic cardiac arrest and patient is obtunded with no purposeful movements to verbal stimuli consider: <u>Induced Therapeutic Hypothermia 3.4.</u>
Tachycardia – Adult		No changes
Tachycardia – Pediatric		No changes
Burns – Adults & Pediatric	EMT	Bullet for Poison Control: <ul style="list-style-type: none"> For chemical burns consider contacting Poison Control at 800-222-1222.
Burns – Adults & Pediatrics	PEARLS	New PEARLS: PEARLS <ul style="list-style-type: none"> Patients with severe frost bite injury may benefit from urgent treatment with IV TPA at a burn center. Patients who sustain an electrical burns should be placed on a cardiac monitor. Consider spinal motion restriction for electrical burns that result in hand to hand flow Patients with extensive electrical burns often require higher volumes of IVF administration compared with thermal burns.
Burns – Pediatric	AEMT	Fluid administration for children 5 – 15 years with a transport time of less than an hour: <ul style="list-style-type: none"> 5 – 15 years of age: Administer 0.9% NaCl at 250 mL/hr, burette (Buretrol or pump preferred)
Drowning/Submersion	All levels	Added definitions for submersion and immersion.

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Drowning/Submersion Injuries – Adult & Pediatric	EMT	<p>New bullet for spinal motion restriction and new bullets for obtaining temperature:</p> <ul style="list-style-type: none"> • Assume c-spine injury and stabilize c-spine. Consider spinal motion restriction for suspected spinal injury, see Spinal Trauma Protocol. • If unresponsive, obtain esophageal or rectal temperature. • Consider NOT initiating resuscitation efforts with: <ul style="list-style-type: none"> ○ A clear history of prolonged submersion prior to cooling and/or cardiac arrest prior to submersion, OR ○ If esophageal or rectal temperature greater than 32°C (89.6° F) with asystole documented in 2 leads.
Drowning/Submersion	All levels	New Hypothermia Table – See Hypothermia above.
Drowning/Submersion Injuries – Adult & Pediatric	PEARLS	<p>New PEARLS:</p> <ul style="list-style-type: none"> • Patients with Stage III or IV hypothermia may benefit from treatment at a facility capable of ExtraCorporeal Membrane Oxygenation (ECMO) or CardioPulmonary Bypass (CPB). Provide a list of these facilities.
Eye & Dental Injuries	All levels	No changes
Musculoskeletal Injuries - Adult & Pediatric	Basic	<p>Added to control bleed bullet:</p> <ul style="list-style-type: none"> • Control bleeding with pressure and/or tourniquet. See Tourniquet Procedure X.XX. Consider hemostatic dressing for severe hemorrhage. <p>Added a hyperlink to the Spinal Trauma Protocol.</p> <p>Added a bullet for pain relief:</p> <ul style="list-style-type: none"> • For pain relief apply ice and elevate
Musculoskeletal Injuries – Adult & Pediatric	AEMT/Paramedic	<p>Added fluid boluses to treat for shock:</p> <ul style="list-style-type: none"> • Adult: Administer 0.9% NaCl in 250mL boluses to maintain systolic blood pressure greater than 90 mmHg. Total volume not to exceed 2000mL without medical control consultation. • Pediatric Administer 0.9% NaCl in 20 mL/kg boluses to improve clinical condition (capillary refill rate, extremity pulses and warmth, mentation, and blood pressure.). Total volume not to exceed 40mL/kg without medical control consultation.
Musculoskeletal Injuries – Adult & Pediatric	Extended Care	<p>For musculoskeletal pain consider:</p> <ul style="list-style-type: none"> • Adult: Ibuprofen 400 – 600mg or acetaminophen 325 – 650mg by mouth; repeat every 4 hours as needed. • Pediatric: Ibuprofen or acetaminophen per Pediatric Color Coded Appendix.
Spinal Injury	All levels	<p>Most of page 2 was rewritten, no content change:</p> <ul style="list-style-type: none"> • Apply adequate padding to prevent tissue ischemia, minimize discomfort and maintain spinal

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		<p>neutrality after helmet or <u>pad</u> removal.</p> <p>If patient requires spinal motion restriction:</p> <ul style="list-style-type: none"> • Apply a rigid cervical collar. • Allow ambulatory patients to sit on stretcher and then lie flat. “Standing Take-Down” is eliminated. • Position backboarded patient on stretcher then remove backboard by using log roll or lift-and-slide technique. • Situations or treatment priorities may require patient to remain on rigid vacuum mattress or backboard including the combative patient, elevated intracranial pressure (see Traumatic Brain Injury 4.6) or rapid transport of unstable patient. • With patient lying flat, secure patient firmly with all stretcher straps and leave collar in place. Instruct patient to avoid moving head or neck as much as possible. • Elevate stretcher back only if necessary for patient compliance, respiratory function, or other significant treatment priority. • If patient poorly tolerates collar (e.g., due to anxiety, shortness of breath, <u>torticollis</u>), replace with towel roll and/or padding. • Patients with nausea or vomiting may be placed in a lateral recumbent position. Maintain neutral head position with manual stabilization, padding/pillows, and/or patient’s arm. <p>Pediatric Patients Requiring a Child Safety Seat If child requires spinal motion restriction, transport in a child safety seat (See Pediatric Transportation Policy 8.11).</p> <ul style="list-style-type: none"> • Apply cervical collar. Use rolled towels/padding if infant/child will not tolerate collar. • Patient may remain in own safety seat after motor vehicle crash if it has a self-contained harness with a high back and two belt paths and is undamaged. If all criteria are not met, use ambulance’s safety seat. • If required treatment (e.g., airway management) cannot be performed in a safety seat, secure patient directly to stretcher using padding and pediatric-sized restraints.
Thoracic Injuries		<p>Specify needle size for chest decompression:</p> <p>In presence of tension pneumothorax*, perform needle decompression using ≥ 3.25 inch angiocath.</p>
Traumatic Brain Injury - Adult & Pediatric	EMT	Added a bullet for long backboard use:

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		<ul style="list-style-type: none"> For moderate to severe TBI, utilize long backboard for spinal motion restriction and elevate patient's head to help control intracranial pressure (ICP)
Traumatic Shock	All Levels	Reformatted to separate out Non-Traumatic Shock and Traumatic Shock
Traumatic Shock	EMT/EMR	Added to assess blood glucose
Traumatic Shock - Pediatric	AEMT/Paramedic	Added to the pediatric fluid bolus bullet to use the syringe method to push.
Airway Management Procedure	All level	<p>Added at the very beginning the statement: "The goal of good airway management is good gas exchange."</p> <p>Under Basic Skills added:</p> <ul style="list-style-type: none"> Nasal airway (can be used in combination with oral airways, use with caution if suspected facial fractures). Oral airway (can be used in combination with nasal airways). Suction. Removal of foreign body. <p>Provide ventilation with a bag-valve-mask (BVM), consider using BVM with PEEP valve at 3 cmH₂O. Proper use of the BVM includes appropriate mask selection and head positioning so sternal notch and ear are at the same level, to ensure a good seal. If possible, utilization of the BVM is best accomplished with two people: one person uses both hands to seal the mask and position the airway, while the other person provides ventilation, until chest rise. If the patient has some respiratory effort; synchronize ventilations with the patient's own inhalation effort.</p> <p>Added Under Advanced Airway Skills: Use least invasive method Non-rebreather Face Mask (NRFM) → Bag-Valve-Mask (BVM) → Supraglottic Airway (SGA) → Endotracheal Intubation (ETT) → Cricothyrotomy (Cric).</p> <p>Under ETT added: Use capnography continuously for placement and CO₂ monitoring. Use video laryngoscopy, if available and trained.</p> <p>Added a Cricothyrotomy to the section:</p> <ul style="list-style-type: none"> Cricothyrotomy: This procedure is indicated only when all other measures fail or you are presented with a situation in which intubation is contraindicated or in which you cannot intubate or otherwise ventilate the patient. Examples include: Massive facial trauma Upper airway obstruction due to edema, mass or foreign body.

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Airway Management Protocol – Adult	EMT	Added to the airway adjunct bullet: <ul style="list-style-type: none"> Consider inserting an oropharyngeal and/or nasopharyngeal airway adjunct.
Airway Management Protocol – Adult	Paramedic	Added the following bullets: <ul style="list-style-type: none"> Use least invasive method for respiratory failure. NRMF → BVM → SGA → ETT → Cric If feasible, place an OGT to decompress the stomach If you cannot establish an airway or ventilate: <ul style="list-style-type: none"> Consider <u>Cricothyrotomy – Percutaneous Procedure 5.2</u> OR Consider <u>Surgical Cricothyrotomy – Bougie Assisted Prerequisite Procedure 7.4.</u> <ul style="list-style-type: none"> Note: this procedure is only to be used by paramedics who are trained and credentialed to perform bougie assisted surgical cricothyrotomy by the NH Bureau of EMS.
Airway Management Protocol – Pediatric	EMT	New bullet for supraglottic airways: <ul style="list-style-type: none"> For Pediatric Cardiac Arrest: consider insertion of a supraglottic airway; see procedures for <u>Supraglottic Airways 5.8.</u>
Airway Management Protocol – Pediatric	AEMT	New bullet for CPAP: <ul style="list-style-type: none"> For pediatrics in severe respiratory distress due to asthma consider use of CPAP. See <u>CPAP Procedure 5.3.</u>
Airway Management Protocol – Pediatric	Paramedic	New bullet for percutaneous cricothyrotomy: <ul style="list-style-type: none"> If you cannot establish an airway or ventilate, see <u>Cricothyrotomy Percutaneous Procedure 5.2.</u>
Cricothyrotomy - Percutaneous	Paramedic	New procedure requiring additional training through medical director's approval.
Combitube	E/A/P	Moved to Supraglottic Airway Procedure. To be removed in 2017
CPAP	A/P	Added to the Contraindications the following bullet: <ul style="list-style-type: none"> Pediatric patient who is too small for the masks available
Gum Elastic Bougie/Flexguide	E/A/P	No changes.
KING – LT	E/A/P	Moved to Supraglottic Airway Procedure.
LMA	E/A/P	Moved to Supraglottic Airway Procedure.
Nasotracheal Intubation	Paramedic	Added the following to Indications: Apnea/respiratory failure, impending respiratory failure, impaired or absent gag reflex. Only after basic procedures are deemed inappropriate or have proven to be inadequate should more advanced methods be used. Use a graded approach for treatment by using least invasive method first. NRB → BVM → SGA → ETT

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		<p>→ Cric.</p> <p>Added a link to Cricothyrotomy.</p> <p>Added Post Intubation Care for Pediatric as follows:</p> <p>Sedation:</p> <ul style="list-style-type: none"> • Fentanyl 2-3 micrograms/kg IV.
Orotracheal Intubation	Paramedic	<p>Added the following to Indications:</p> <ul style="list-style-type: none"> • Apnea/respiratory failure, impending respiratory failure, impaired or absent gag reflex. Only after basic procedures are deemed inappropriate or have proven to be inadequate should more advanced methods be used. Use a graded approach for treatment by using least invasive method first. NRB → BVM → SGA → ETT → Cric. . <p>Under Procedures #3 added:</p> <p>3. Open the patient's airway. While holding the laryngoscope in the left hand, insert the blade into the right side of the patient's mouth, sweeping the tongue to the left. Use video laryngoscopy, if available and trained.</p> <p>Added a link to Cricothyrotomy.</p> <p>Added Post Intubation Care for P.e.Odiatric as follows:</p> <p>Sedation:</p> <ul style="list-style-type: none"> • Fentanyl 2-3 micrograms/kg IV.
Suctioning Inserted Airways	E/A/P	Made a link to the Tracheostomy Care Procedure.
Supraglottic Airways	E/A/P	Combined KING, LMA and Combitube into a new procedure.
Tourniquets		New procedure
Tracheostomy Care	E/A/P	No change.
Ventilators	Paramedic	No change.

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12 Lead Acquisition	E/A/P	<p>PEARLS added and pictures:</p> <p>PEARLS:</p> <ul style="list-style-type: none"> • Ensure the patient's age is entered for proper interpretation. • When transmitting either include the patient's name or notify the receiving facility of the patient's identity. • Be alert for causes of artifact: dry or sweaty skin, dried out electrodes, patient movement, cable movement, vehicle movement, EMI, static electricity • According to manufacturers, dried out electrodes are a major source of artifact; keep in original sealed foil pouches; plastic bags are not sufficient; use all the same kind of electrodes; press firmly around the edge of the electrode, not the center. • Sweaty patients should be dried thoroughly. Consider tincture of benzoin. Dry skin is especially problematic. Clean the site (e.g. alcohol prep pad) and gently abrade skin using a towel or 4x4 gauze. Consider ECG skin prep pad (essentially fine sandpaper), fine sandpaper, or 3M green scrubby. • Check for subtle movement: toe tapping, shivering, muscle tension (e.g. hand grasping rail or head raised to "watch") • Electro-magnetic interference (EMI) has become an INCREASING issue as more equipment generating electromagnetic interference is added to ambulances: Cell phones, Laptops and Bluetooth.
Intraosseous Access	AEMT/Paramedic	No change.
Quantitative Waveform Capnography	E/A/P	Complete re-write but no content changes.
Restraints	Paramedic	<p>Added chemical restraints:</p> <p>Once physically restrained:</p> <ul style="list-style-type: none"> • Midazolam 5mg IM, may repeat once in 20 minutes; or 2.5mg IV/IN, may repeat once in 5 minutes; OR • Lorazepam 2mg IM, may repeat once in 20 minutes; or 1mg IV, may repeat once in 5 minutes; OR • Diazepam 2mg IV (preferred route), may repeat once in 5 minutes; or 5mg IM, may repeat once in 20 minutes AND/OR • Haloperidol 5 - 10mg IM, may repeat once in 10 minutes (max total dose 10 mg). <p>For patient with suspected Excited/Agitated Delirium or extreme agitation:</p>

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		<ul style="list-style-type: none"> • Midazolam 5mg IV/IM/IN; may repeat once in 10 minutes. □ If agitation continues after the second dose of midazolam, then consider: <ul style="list-style-type: none"> ▪ Haloperidol 10mg IM; may repeat once in 10 minutes. <p>NOTE: Contact Medical Control for additional doses.</p> <ul style="list-style-type: none"> • If cardiac arrest occurs, consider fluid bolus and sodium bicarbonate early, see Cardiac Arrest 3.2A. <p>For acute dystonic reaction to haloperidol:</p> <ul style="list-style-type: none"> • Diphenhydramine 25 – 50mg IV/IM.
Restraints	Red Flag	<p>New red flag:</p> <ul style="list-style-type: none"> • Excited/Agitated Delirium is characterized by extreme restlessness, irritability, and/or high fever. Patients exhibiting these signs are at high risk for sudden death. • Medications should be administered cautiously in frail or debilitated patients; lower doses should be considered. • Administer haloperidol with caution to patients who are already on psychotropic medications which may precipitate serotonin syndrome or malignant hyperthermia. • Placing a patient in prone position creates a severe risk of airway and ventilation compromise and death.
Taser (Conductive Electrical Weapon)	E/A/P	Added Conductive Electrical Weapon to title.
Vascular Access via Central Catheter – Adult and Pediatric	Paramedic	<p>Updated procedures to today's current practice:</p> <p>Page 1:</p> <p>Procedure for peripherally inserted Central Catheter (Cook, Neo-PICC, etc.) and Tunneled Catheter (Broviac, Hickman, Groshong, etc.)</p> <ol style="list-style-type: none"> 1. Utilize good hand-hygiene with either alcohol gel based cleanser or soap and water. 2. Utilize respiratory precautions if indication of respiratory infection in provider or patient <ul style="list-style-type: none"> • Mask the provider and/or the patient 3. Prepare equipment: <ul style="list-style-type: none"> • 2-3 10ml prefilled syringes of 0.9% NaCl • Sterile gloves (if available).

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		<p>4. If more than one lumen is available (PICCs, Hickmans and Broviacs can have one, two, or three lumens), select the largest lumen available.</p> <p>5. Vigorously cleanse the cap of the lumen with chlorhexidine or 70% alcohol prep pad.</p> <ul style="list-style-type: none"> • Allow to dry <p>6. Unclamp the selected catheter lumen and using a prefilled 10ml syringe.</p> <ul style="list-style-type: none"> • Vigorously flush the catheter using a pulsating technique and maintaining pressure at the end of the flush to prevent reflux of fluid or blood. • If catheter does not flush easily (note that a PICC line will generally flush more slowly and with greater resistance than a typical intravenous catheter), re-clamp the selected lumen and attempt to use another lumen (if present). • If unable to flush any of the lumens, the catheter is unable to be used. <p>7. Attach IV administration set and observe for free flow of IV fluid.</p> <ul style="list-style-type: none"> • Utilizing an IV pump, set the flow rate based on the patient condition and in accordance to NH Protocols. 																								
Vascular Access via Central Catheter – Adult and Pediatric	Paramedic	<p>Page 1 Added a new Chart for flow rates depending on catheter used:</p> <table border="1"> <thead> <tr> <th>CATHETER</th><th>SIZE</th><th>MAX FLOW RATE</th></tr> </thead> <tbody> <tr> <td>PICC</td><td>Less than 2.0 fr</td><td>125 mL/hr</td></tr> <tr> <td>PICC</td><td>Greater than 2.0 fr</td><td>250 mL/hr</td></tr> <tr> <td>Groshong PICC</td><td>3 fr</td><td>240 mL/hr</td></tr> <tr> <td>Groshong PICC NXT</td><td>4 fr</td><td>540 mL/hr</td></tr> <tr> <td>Groshong PICC NXT</td><td>5 fr</td><td>200 mL/hr</td></tr> <tr> <td>Hickman/Broviac</td><td></td><td></td></tr> <tr> <td>Hickman/Broviac – Power Port</td><td>8 – 9.5 fr</td><td>3000 mL/hr</td></tr> </tbody> </table>	CATHETER	SIZE	MAX FLOW RATE	PICC	Less than 2.0 fr	125 mL/hr	PICC	Greater than 2.0 fr	250 mL/hr	Groshong PICC	3 fr	240 mL/hr	Groshong PICC NXT	4 fr	540 mL/hr	Groshong PICC NXT	5 fr	200 mL/hr	Hickman/Broviac			Hickman/Broviac – Power Port	8 – 9.5 fr	3000 mL/hr
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Vascular Access via Central Catheter – Adult and Pediatric	Paramedic	<p>Page 2 updated procedure:</p> <p>Procedure for implanted catheter (Port-a-Cath, P.A.S. port, Medi-port)</p> <ol style="list-style-type: none"> 1. Utilize good hand-hygiene with either alcohol gel based cleanser or soap and water. 2. Utilize respiratory precautions if indication of respiratory infection in provider or patient. <ul style="list-style-type: none"> • Mask the provider and/or the patient. 3. Prepare all necessary equipment: <ul style="list-style-type: none"> • Non-coring, right angle needle specific for implanted vascular access ports • 2-3 10ml prefilled syringes of 0.9% NaCl 																								

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		<ul style="list-style-type: none"> • Sterile infusion port cap • Sterile gloves (if available) • Sterile occlusive dressing large enough to completely cover the insertion site <p>4. Identify the access site; usually located in the chest.</p> <p>5. Vigorously cleanse the access site with chlorhexidine or 70% alcohol prep pad.</p> <ul style="list-style-type: none"> • Allow to dry. <p>6. Attach the infusion port cap to the end of the non-coring, right angle needle tubing.</p> <p>7. Prime the non-coring needle with tubing with saline using one of the prefilled 10ml syringes.</p> <ul style="list-style-type: none"> • Leave the syringe attached to the tubing. <p>8. Palpate the port to determine the size and center of the device.</p> <ul style="list-style-type: none"> • If not utilizing sterile gloves, re-clean the skin and apply new gloves <p>9. Secure the access point port firmly between two fingers and firmly insert the non-coring needle into the port, entering at a direct 90o angle.</p> <p>10. Aspirate 3 – 5ml of blood with the syringe.</p> <ul style="list-style-type: none"> • If unable to aspirate blood, re-clamp the catheter and do not attempt further use. • Dispose of aspirated blood in bio hazard container. • Asking the patient to cough may facilitate access of the port. <p>11. Flush the catheter with 3 – 5ml 0.9% NaCl using a prefilled 10ml syringe.</p> <ul style="list-style-type: none"> • If catheter does not flush easily, do not attempt further use. <p>12. Attach IV administration set and observe for free flow of IV fluid.</p> <ul style="list-style-type: none"> • Utilizing an IV pump, set the flow rate based on the patient condition and in accordance with NH Protocols. <p>13. Cover the needle and insertion site with the sterile occlusive dressing.</p>
Immunizations - Prerequisite Protocol	AEMT/Paramedic	<p>Moved up to the AEMT level.</p> <p>This is a prerequisite protocol, for more information contact the NH Bureau of EMS.</p>
Interfacility Transfer – Prerequisite Protocol	A/E/P	<p>Under training levels second paragraph, rewrote first two sentence:</p> <ul style="list-style-type: none"> • New Hampshire has two multiple levels of paramedic interfacility transfer capabilities training and credentialing including: Paramedic Interfacility Transport (PIFT) and Critical Care Teams Transport (CCT) as defined in the PIFT Administrative Manual. <p>Replaced First Responder Driver with second licensed provider driver.</p>

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		<p>Under Stable patient with low risk of deterioration changed the medications allow to:</p> <ul style="list-style-type: none"> • No ongoing or anticipated medications to be administered, • Medications within their scope of practice. <p>3rd Page under Definitions: Removed the list of conditions and EMTALA reference:</p> <ul style="list-style-type: none"> • Stable Patient: Hemodynamically stable patient with a secure airway and who is NOT in acute distress (e.g., active labor, respiratory distress, dangerous dysrhythmias, shock, uncontrolled bleeding). Medical determinations of “stable” are not necessarily the same as the legal definitions used by EMTALA. <p>Top of 4th page, removed EMTALA reference.</p> <p>4 page under Medical Control added provider with physician to account for midlevel providers:</p> <ul style="list-style-type: none"> • Transferring physician/provider <p>This is a prerequisite protocol, for more information contact the NH Bureau of EMS.</p>
Mobile Integrated Healthcare - Prerequisite Protocol	E/A/P	<p>Change the name of Community Paramedicine to Mobile Integrated Healthcare.</p> <p>Complete re-write of the protocol. This is a prerequisite protocol, for more information contact the NH Bureau of EMS.</p>
Rapid Sequence Intubation - Prerequisite Protocol.	Paramedic	<p>1st Paragraph, changed who needed to be present during the RSI procedure to also include a paramedic:</p> <ul style="list-style-type: none"> • This procedure is only to be used by paramedics who are trained and credentialed to perform RSI by the NH Bureau of EMS. Either 2 RSI paramedics or 1 RSI paramedic and 1 RSI assistant or non-RSI paramedic must be present. <p>Removed the sentence requiring Ketamine as a second line medication.</p> <p>Increased succinylcholine maximum dose from 150mg to 200mg.</p> <p>Added a Red Flag to go to Cricothyrotomy Protocol for failed away.</p> <p>This is a prerequisite protocol, for more information contact the NH Bureau of EMS.</p>
Surgical Cricothyrotomy – Bougie Assisted – Adult	Paramedic	<p>New prerequisite protocol requiring approval from the Bureau of EMS.</p>
Abuse and Neglect – Child, Elder, Incapacitated Adults	All levels	<p>Added a section on Scene Safety.</p> <p>Under Procedure for Assessment added the following bullets:</p> <ul style="list-style-type: none"> • Provide emotional support and comfort.

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		<ul style="list-style-type: none"> Limit physical contact with patient to that which is required to perform assessment and treatment.
Air Medical Transport	All levels	<p>Under Clinical Conditions added bullet:</p> <ul style="list-style-type: none"> Major burns with greater than 20% BSA and/or inhalation injury with risk of airway compromise. <p>Under Additional Notes added to 2nd bullet:</p> <ul style="list-style-type: none"> AMT is NOT indicated for patients in cardiac arrest. Should the patient go into cardiac arrest after AMT request the AMT crew may be utilized for resuscitation and stabilization.
Bariatric		New Policy
Bloodborne/Airborne Pathogens	All levels	<p>Added screening statement:</p> <p>Screen symptomatic patients for out of country travel within the past 21 days, or close contact with another symptomatic individual who has recently traveled out of the country. Provide early notification to receiving hospital.</p>
Communication	All levels	No change.
Communication Failure	All levels	No change.
Consent for Treatment of a Minor	All levels	<p>Added a bullet regarding adolescent patients:</p> <p>An adolescent patient under the age of 18 must give his/her consent for a sexual assault forensic exam ("Sexual Assault: An Acute Care Protocol for Medical/Forensic Evaluation", Office of the NH Attorney General, Sixth Edition, 2011). Adolescents with no life threatening injuries may be hesitant to seek medical attention after a sexual assault. Other reasons for transport to hospital include prophylactic treatment for sexually transmitted disease or pregnancy and drug/alcohol screening which is crucial for possible prosecution. If unable to convince patient to seek emergency care at a hospital, contact Medical Control and request assistance from a hospital-based advocate or from the local crisis center.</p>
Crime Scene/Preservation of Evidence	All levels	No change.
Do Not Resuscitate (DNR)	All levels	<p>Change title to:</p> <p>Do Not Resuscitate (DNR) Orders, Provider Orders for Life Sustaining Treatment (POLST) and Advanced Directive</p>
LVAD	All Levels	<p>Page 1 under Highlights of Assessing and Treating an LVAD Patient added bullet:</p> <ul style="list-style-type: none"> Consult family/caregiver and telephone LVAD coordinator for guidance. <p>Page 2 Under Vitals:</p> <ul style="list-style-type: none"> <u>Blood Pressure</u>: Not Reliable: you may or may not be able to obtain one, standard readings are

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		<p>unreliable, and may often vary widely from attempt to attempt, and correlation to systemic pressures is unreliable, even with consistent readings in the “normal” range. If NIBP machine can detect a blood pressure, adjust it to display Mean Arterial Pressure (MAP). This is a more reliable measure of perfusion and the calculation for MAP can overcome variations in standard readings. A MAP of 60-70 is normal.</p> <p>Page 3 under Treating the LVAD Patient bullets:</p> <p>3. Pump has stopped: Batteries problems are a common cause for a pump to stop (battery dead, not seated properly, or both taken out at once). This is unlikely to be immediately fatal unless a patient is in VF/VT when the pump stops,. The patient is more likely to return to their baseline unstable CHF symptoms. Treat the symptoms and contact the VAD coordinator before restarting a pump stopped for more than 1-2 minutes. issue If you are assisting patient to change batteries or power source, never remove both batteries at the same time. This will cause the LVAD pump to immediately stop!</p> <p>5. Treating ECG changes:</p> <ul style="list-style-type: none"> • Use of ACLS medications, defibrillation and pacing is unchanged for LVAD patients. Follow standard AHA and protocol guidelines as appropriate. • Many LVAD patients already have an An implanted defibrillator and/or a pacemaker may already be in place. These devices will often respond to an ECG change before you can. • The continuous flow of the LVAD means changes in potentially unstable or fatal ECG rhythms, including atrial fibrillation, SVT, ventricular tachycardia and even ventricular fibrillation, may have minimal to no short-term effect on the cardiac output and stability. Treat ECG changes according to protocol. <p>Use of external pacing or defibrillation is unchanged for LVAD patients. Use standard pad placements including avoiding placement over AICDs and pacemakers.</p> <p>Page 4 Under Transport of the LVAD Patient bullet 4:</p> <p>4. <u>Always</u> bring spare batteries for the LVAD with the patient, even if it is not a LVAD problem (see # 3. above). Fresh batteries generally last 3-10 hours, depending on the battery style. Dead batteries means a dead patient!</p>
On Scene Medical Personnel	All levels	<ul style="list-style-type: none"> • Brought the policy in alignment with Saf-C 5922.01 by added to the third bullet and adding an additional bullet: • Any health care provider (MD, PA, RN, nurse midwife, EMS provider, etc.) who is not an active member of the responding EMS unit or the unit's medical director, and who is either at the scene at the time of the EMS unit's arrival or arrives after an EMS unit has initiated care, and who desires to assume primary patient care assist the responding EMS providers, should be put in touch with the on-line Medical Control physician and:

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		<ul style="list-style-type: none"> ○ Continue to provide care during transport of the patient; or ○ Transfer patient care to another provider at the same licensing level for transport of the patient to a medical hospital/facility; ○ Document all advanced care procedures performed while rendering care, which shall include an emergency care provider's current license number assigned by the division; and ○ Submit all documentation to the unit in charge of the incident. <ul style="list-style-type: none"> ● Where a higher level provider offers to assist, but that assistance is declined by the lead responding agency, the higher level provider shall not have any responsibility or liability for the patient's care. <p>See Saf-C 5922.01 (c)</p>
Patient Status Determination	All levels.	<p>Rewrote definitions:</p> <p><u>Status I Critical (Patients with symptoms of a life-threatening illness or injury with a high probability of mortality (death) if immediate intervention is not begun to prevent further airway, respiratory, hemodynamic, and/or neurologic instability)</u>(Patients with life threatening illness or injury who require immediate care)</p> <p><u>Status II Emergent (Patients with symptoms of an illness or injury that may progress in severity or result in complications with a high probability for morbidity (increased illness or disability) if treatment is not begun quickly)</u>serious illness or injury that are determined no to be immediately life threatening).</p> <p><u>Status III Lower Acuity (Patients with symptoms of an illness or injury that have a low probability of progression to more serious disease or development of complications)</u>with minor illness or injuries that do not require immediate stabilization).</p> <p><u>Status IV Non-Acute – EMS evaluation with no interventions provided</u>stable—transport for diagnostic tests)</p> <p>Added new bullets under Status 1:</p> <ul style="list-style-type: none"> ● Pediatric non-responsive respiratory distress ● Decompensating Shock or Sepsis/severe bleeding. ● Major trauma ● Uncontrolled bleeding. ● Status epilepticus.

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		<p>Under Status IV added new bullets:</p> <ul style="list-style-type: none"> • <u>Scheduled medical transport, e.g. dialysis or return home</u> • <u>Public assists</u> • <u>Medical alarm with false activation</u> • <u>Good intent calls</u> • Patients being transported to undergo non-emergent diagnostic tests who will not be seen in the emergency department or evaluated by a physician in the emergency department. <p>Eliminated the last 3 bullets under Notes of Clarification</p>
Pediatric Transport	All levels	<p>Replaced drawn pictures with photographs. Updated RSA statement with new language. Removed the bullets for securing backboard to cot. Removed last 5 bullets from Isolette section.</p> <ul style="list-style-type: none"> • Stretcher Harness Device section updated second bullet and added a fifth: 5-point harness must rest snugly against child. Secure belt at child's shoulder level so no gaps exists above shoulders. • Follow manufacturer's guidelines regarding weight.
Police Custody	All levels	No change.
Refusal of Care	All levels	<p>Updated the Advanced Spinal Assessment link to Spinal Injury Protocol link. Under Procedure updated: 9. If child or adult abuse and/or neglect is suspected and a refusal of care situation exists, the EMT must contact police immediately, see Abuse and Neglect Protocol 8.0.</p>
Response to Domestic Violence	All levels	<p>Added a section for children on scene: <u>Children on scene</u></p> <ul style="list-style-type: none"> • Domestic violence is family violence and children and pets are often injured even when they are not the primary target of the abuse. Children should be carefully assessed for physical injury whenever adults are injured in a domestic violence incident, and/or if the scene suggests a mechanism of injury such as broken glass or furniture. • If physically uninjured, children should be sheltered from further harm on scene, ie. witnessing patient care, view of the crime scene, police interaction with the suspected abuser, etc.

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		<ul style="list-style-type: none"> Witnessing violence qualifies as child abuse and neglect and therefore mandates a report (see Child Abuse Reporting for more information.) A child who has witnessed violence will need care for potential emotional/psychological injuries, even if s/he has not suffered physical injury. The child should be put in the care of Law Enforcement until Child Protective Services (CPS) can be contacted and arrangements can be made for the child's safety. The procedure for contacting CPS can vary by regional office/police department. Discuss this scenario with local law enforcement in advance of an incident. An EMS provider may assist law enforcement with caring for the uninjured child/children until appropriate arrangements have been made by law enforcement.
Resuscitation Initiation & Termination.	All levels	Change title from Special Resuscitation Situations & Exceptions to Resuscitation Initiation & Termination.
Trauma Triage	All levels	GCS changed from < 9 to ≤13 to reflex CDC recommendations.
Hazardous Material Exposure	All levels	<p>Change Material Safety Data Sheets (MSDS) to Safety Data Sheets (SDS)</p> <p>Added a hospital notification section:</p> <p><u>Hospital Notification</u></p> <p>Receiving hospitals should be notified as soon as it is determined you have contaminated patient(s) to ensure the facility is capable and prepared to receive a potentially contaminated patient. Communication with the hospital should include such information as covered under the documentation and treatment section.</p>
Mass/Multiple Casualty Triage	All levels	Updated triage system from START or Jump START to SALT.
Radiation Injuries – MCI	All levels	No Changes.
EMS Adult Formulary	All levels	Updated with new medications and dosages
Pediatric Color Coded Appendix	All levels	Updates with new medications and dosages
Scope of Practice	All levels	Updated
Medication List by Provider Level	E/A/P	New
POLST	All levels	Updated from